



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/592,936

09/15/2006

Koji Katano

129370

6051

25944 7590 09/29/2009

OLIFF & BERRIDGE, PLC

P.O. BOX 320850

ALEXANDRIA, VA 22320-4850

EXAMINER

LEE, CYNTHIA K

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

09/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/592,936	Applicant(s) KATANO, KOJI	
	Examiner CYNTHIA LEE	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Priority

Acknowledgement has been made of applicant's claim for priority under 35 USC 119 (a-d). The certified copy has been filed on 9/15/2006.

Information Disclosure Statement

The Information Disclosure Statement (IDS) filed 9/15/2006 and 3/10/2008 has been placed in the application file and the information referred to therein has been considered.

Drawings

The drawings received 9/15/2006 are acceptable for examination purposes.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Abe (US 6815103).

Refer to fig. 1. Abe discloses a fuel cell system comprising:

a fuel cell body 11

Art Unit: 1795

a first portion and a second portion which form a passage for hydrogen exhausted from the fuel cell body; and

a hydrogen exhaust valve 24 disposed in the passage between the first portion and the second portion, wherein the first portion and the second portion are directly fixed to each other and are both continuously supplied with heat from the fuel cell body following start up of the fuel cell body.

Regarding claim 2, the first portion is a gas-liquid separation unit 22. It would have been obvious to one of ordinary skill in the art at the time the invention was made necessarily be supplied with heat from inflowing exhaust gas from the fuel cell body.

Regarding claim 3, the first portion is an end plate (the plate directly attached to the fuel cell 11) provided in a stack configured by the fuel cell body. It would have been obvious to one of ordinary skill in the art at the time the invention was made necessarily be supplied with heat liberated by the stack.

Regarding claim 9, the hydrogen exhaust valve 24 is fixed to the first portion and the second portion.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US 6815103) as applied to claim 1, in view of Nguyen (US 7235217).

Regarding claim 4, Abe does not disclose the second portion is a hydrogen processing unit supplied with heat from inflowing exhaust gas from the fuel cell body. Regarding claim 5, Abe does not disclose the hydrogen processing unit is a dilution unit. Regarding claim 6, Abe does not disclose the hydrogen processing unit is a combustion unit. Nguyen teaches the anode exhaust directed to a combustor (A) to dispose the anode exhaust. See fig. 1. The combustor reads on Applicant's hydrogen processing unit because it processes the residual fuel. The combustor reads on Applicant's dilution unit because it is diluted with water and air. It would have been obvious to one of ordinary skill in the art at the time the invention was made to direct the anode exhaust to a combustor unit as taught by Nguyen for the benefit of disposing the fuel offgas.

Claims 7, 8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US 6815103) as applied to claim 1, in view of Kiku (US 6908069).

Abe does not disclose the elements of claims 7, 8, and 10. Regarding claim 7, Kiku teaches first portion including a cover 24 formed with an internal space that accommodates the hydrogen exhaust valve 4; and a second portion 25 closes the internal space of the cover within which the hydrogen exhaust valve is disposed. Regarding claim 8, Kiku teaches a spring member 69 is interposed between the hydrogen exhaust valve and one of the first portion and the second portion to urge the

Art Unit: 1795

hydrogen exhaust valve against the other one of the first portion and the second portion.

Regarding claim 10, Kiku teaches seal mechanisms 92p and 17 are respectively interposed between the hydrogen exhaust valve and each of the first portion and the second portion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the valve of Kiku as the hydrogen exhaust valve for the benefit of moving the hydrogen exhaust.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Lee whose telephone number is 571-272-8699.

The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Lee/
Examiner, Art Unit 1795

/PATRICK RYAN/
Supervisory Patent Examiner, Art
Unit 1795